



Title: Boilersmith

Type of Employment: 2 year Fixed Term Contract

Start Date: 1st July 2015 (earlier if possible)

Hours of Work: 40 hrs per week

Salary: £28,000 - £30,000 (depending on experience)

Reports to: Boiler workshop foreman

Based at: Boiler Shop – Ropley Works

Background:

CanPac – Engineering a Future from the Past is a project in partnership with the Heritage Lottery Fund (HLF) to strip down, repair and return to service an Oliver Bullied designed steam engine by the name of *Canadian Pacific* and restore two carriages also designed by Bullied.

Job Purpose:

The **Boilersmith** is under the technical direction of the **Mid Hants Railway (MHR) Boiler Shop Foreman**. The **Boilersmith** with the **Boiler Shop Senior Trainee** will strip down, repair, overhaul and rebuild the boiler of steam engine *Canadian Pacific*. The team will assess the work required; the materials needed and create a plan for the repair, overhaul and reassembly of the boiler in line with the requirements of the boiler inspectors report of September 2014 such that *Canadian Pacific* is available for operational use from April 2018. The plan will be endorsed by the **MHR Boiler Foreman**.

Key Responsibilities and Accountabilities:

The key responsibilities and accountabilities show below are for the team responsible for the overhaul of *Canadian Pacific's* boiler. The **Boilersmith** will work with the assistance of the **Boiler Shop Senior Trainee** and in the process seek to pass on their knowledge and skills. They will inspect all removed components and assess for re-use, repair or replacement. Both will be under the technical direction of the MHR Boiler Foreman whilst reporting to the Project Manager for progress and cost monitoring.

1. All components removed shall be marked for later identification and stored in an appropriate environment.
2. Remove the firebox tube plate and replace with new.
3. Remove and replace defective or broken firebox stays.
4. Mark up other firebox stays unlikely to withstand extensive further service and replace with new stays.
5. Assist the external contractor to carry out a Non Destructive Test (NDT) survey on areas of firebox plating to determine plate renewal, where required and replace with new plate and stays.
6. Support Special service contract surveyor in carrying out full internal and external examination to determine defects not sustainable for a further ten-year period.
7. Carry out any additional plating repairs at this time.
8. Renew, diaphragm plates and flexible stays on thermic syphons, arrange NDT survey on syphons.
9. Replace firebox crown stays as required.

10. Re-Tube boiler with 124 small tubes and 40 superheater flue tubes all new.
11. Replace foundation ring rivets and caulk seams as required.
12. Renew regulator valve body, overhaul valve and linkage and refit to boiler.
13. Replace all defective and wasted mounting studs and face up all flanges.
14. Fully overhaul all boiler mountings and replace any defective parts.
15. Refit all overhauled boiler fittings, washout plugs, mud hole doors, fusible plugs.
16. Refit new construction smokebox, door and ring and rivet to boiler.
17. Cold water Hydraulic test of completed boiler under special service contract.
18. Refit complete fire grate assembly and overhaul rocking gear, renew as required.
19. Overhaul superheater header and carry out hydraulic test, refit to boiler.
20. Service superheater elements, pressure test and refit to boiler.
21. Carry out Pt II working examination off the frame and without insulation.
22. The strip down to be comprehensively documented by photograph and where appropriate by video. The purpose being to create an historical record but more significantly to aid the reassembly.
23. It is the desire that the finished boiler will be an accurate restoration as would have been outshopped from Eastleigh works some 60 years ago. It is important therefore that time is taken to understand how each component is put together and the skills and specialist tools that may have been used. Recordings will be made for display on our social media interfaces so that interested parties may engage in this exciting phase of the project.
24. Care must be taken at all stages of the work to ensure early identification of any materials that are exposed which could pose a hazard to health. NB Initial inspection has not identified any areas of concern but never the less vigilance must be exercised.
25. At all stages of the process every effort must be made to engage and include both skilled and unskilled volunteers in the programme.
26. A minimum of two open days will be held to engage with the wider community of interested parties.
27. Respond to and follow up enquiries by email, social media or personal visits.
28. Monitor and report on activities and provide relevant management information.

PERSON PROFILE

Personality: Self-driven, conscientious person with a positive outlook, having a clear focus on high quality and be sympathetic to the value and significance of this heritage artefact. A natural forward planner who can critically assess mechanical components. Reliable and tolerant being able to work with the team and engage with all willing volunteers. Well presented as the team will be the representative of the Mid Hants Railway. Able to get on with others, be a team-player and fully safety aware.

Specific Job Skills: The job holder will have served a recognised apprenticeship or formal learning period and be looking to improve their skills and knowledge base. Some experience as a mechanical fitter able to demonstrate their capability to safely work under minimal supervision and qualified to use gas cutting and welding equipment.

Literacy, Numeracy and Computer Skills: Able to use MS Office, particularly Excel and Word and be competent in the use of the Internet and E-mail and be a competent writer of technical reports and able to communicate technical information to readers at all levels.

Management Ability: Able to manage a team of varying skills and daily unpredictable size.

Application: Applications in writing, with CV to:

Derek Simmonds

canpac@watercressline.co.uk

Mid Hants Railway, Alresford Station, Alresford, Hants SO24 9JG